

United States Department of the Interior
National Park ServiceNational Register of Historic Places
Registration Form

NOV 28 1989

This form is for use in nominating or requesting determinations of eligibility for individual properties or districts. See instructions in *Guidelines for Completing National Register Forms* (National Register Bulletin 16). Complete each item by marking "x" in the appropriate box or by entering the requested information. If an item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, styles, materials, and areas of significance, enter only the categories and subcategories listed in the instructions. For additional space use continuation sheets (Form 10-900a). Type all entries.

1. Name of Property

historic name Doniphan County Waddell
other names/site number Doniphan County Waddell

2. Location

street & number 1.7 miles northeast of Doniphan on F.A.S. 28 ☐ not for publication
city, town Doniphan ☒ vicinity
state Kansas code KS county Doniphan code 43 zip code none

3. Classification

Ownership of Property

- ☐ private
☒ public-local
☐ public-State
☐ public-Federal

Category of Property

- ☐ building(s)
☐ district
☐ site
☒ structure
☐ object

Number of Resources within Property

Contributing

1
1

Noncontributing

0 buildings
0 sites
0 structures
0 objects
0 Total

Name of related multiple property listing:
Metal Truss Bridges in Kansas

Number of contributing resources previously
listed in the National Register 0

4. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act of 1966, as amended, I hereby certify that this
☐ nomination ☐ request for determination of eligibility meets the documentation standards for registering properties in the
National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60.
In my opinion, the property ☒ meets ☐ does not meet the National Register criteria. ☐ See continuation sheet.

Ramon J. Powers
Signature of certifying official

Nov. 18, 1989
Date

State or Federal agency and bureau

In my opinion, the property ☐ meets ☐ does not meet the National Register criteria. ☐ See continuation sheet.

Signature of commenting or other official

Date

State or Federal agency and bureau

5. National Park Service Certification

I, hereby, certify that this property is:

- ☒ entered in the National Register.
☒ See continuation sheet.
☐ determined eligible for the National
Register. ☐ See continuation sheet.
☐ determined not eligible for the
National Register.
☐ removed from the National Register.
☐ other, (explain:)

Beth Boland
Signature of the Keeper

1/4/90
Date of Action

6. Function or Use

Historic Functions (enter categories from instructions)

Transportation: Road Related (Vehicular) Bridge

Current Functions (enter categories from instructions)

Transportation: Road Related (Vehicular): Bridge

7. Description

Architectural Classification

(enter categories from instructions)

Other: Waddell "A" Truss

Materials (enter categories from instructions)

foundation

walls

roof

other Metal: Wrought Iron or Steel

Describe present and historic physical appearance.

The Doniphan County Waddell "A" truss, erected in ca. 1900, is a rivited pony truss. The single span is 36 feet long and 20 feet wide. The deck rises 14 feet above the stream bed.

The members of a truss bridge are designated either as chord members or web members. Chord members are those mainly defining the outlines of the structure and they are termed lower or upper chord members depending on whether they are found at the bottom or the top of the structure. Members between the chords are web members. They are called posts or ties if they sustain compression or tension respectively.

In the King Post truss, the end posts and top chord merge to form two sides, and the lower chord completes the triangle. The end post and top chord sides are in compression while the lower chord side is in tension. If diagonals and secondary verticals are added to the king post, it becomes a Waddell "A" truss. The secondary verticals are placed in tension and the diagonals act in compression. The Doniphan county bridge is fabricated out of channel stock. Connections are facilitated by the use of metal plates at connection points. All connections are rivited. The top chords, king post, diagonals and secondary verticals are made up of these channel beams. The bottom chord is single. One floor beam is attached to the king post and the sway brace. This in turn supports an I beam running the length of the panel. The wood decking is laid diagonally on top of these I beams. Few alterations have taken place and the bridge retains a high degree of its structural integrity.

8. Statement of Significance

Certifying official has considered the significance of this property in relation to other properties:

☐ nationally ☒ statewide ☐ locallyApplicable National Register Criteria ☐ A ☐ B ☒ C ☐ DCriteria Considerations (Exceptions) ☐ A ☐ B ☐ C ☐ D ☐ E ☐ F ☐ G

Areas of Significance (enter categories from instructions)

Engineering

Transportation

Period of Significance

Ca. 1900

Ca. 1900

Significant Dates

Ca. 1900

Ca. 1900

Cultural Affiliation

n/a

Significant Person

n/a

Architect/Builder

Unknown

State significance of property, and justify criteria, criteria considerations, and areas and periods of significance noted above.

The King Post is one of the oldest truss designs, serving well in many medieval buildings. As is evident they served as well as bridges into the 20th century. Its simplicity also establishes its limit. As the length increases so must the height, at the same ratio. It is therefore only practical in short spans. This was compensated somewhat by the development of a Waddell "A" Truss in the late 19th and early 20th century. The length of a Waddell could reach up to 75 feet.

No actual construction history of the Doniphan County Waddell "A" Truss has presently been located. Such structures were generally quite inexpensive and received little public notice. It was selected to be nominated because it is the only remaining example of the design in Kansas and it retains an outstanding degree of its integrity.

☐ See continuation sheet

9. Major Bibliographical References

- Victor C. Darnell, American Bridge Building Companies, Washington, DC: Society for Industrial Archeology Occasional Publication 4, 1984.
- David Weitzman, Traces of the Past: A Field Guide to Industrial Archeology, New York: Charles Schribner's Sons, 1980.
- James L. Cooper, Iron Monuments to Distant Posterity, DePauw University, F.H.W.A., Indiana Dept. of Highways, Indiana Dept. Natural Resources, N.P.S., 1987.
- Dan G. Deibler, A Survey and Photographic Inventory of Metal Truss Bridges in Virginia, Charlottesville: Virginia Highway & Transportation Research Council, 1975.

☐ See continuation sheet

Previous documentation on file (NPS):

- ☐ preliminary determination of individual listing (36 CFR 67) has been requested
- ☐ previously listed in the National Register
- ☐ previously determined eligible by the National Register
- ☐ designated a National Historic Landmark
- ☐ recorded by Historic American Buildings Survey # _____
- ☐ recorded by Historic American Engineering Record # _____

Primary location of additional data:

- ☒ State historic preservation office
- ☐ Other State agency
- ☐ Federal agency
- ☐ Local government
- ☐ University
- ☐ Other

Specify repository:
KS State Historical Society

10. Geographical Data

Acreage of property less than one acre

UTM References

A

1	5	3	2	3	7	4	0	4	3	9	0	0	4	0
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Zone Easting Northing

C

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

B

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Zone Easting Northing

D

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

☐ See continuation sheet

Verbal Boundary Description

The nominated property is located on the NW 1/4, SW 1/4, NE 1/4, SW 1/4, section 3, township 5 south, range 21 east, on a tract measuring 36' x 20' whose northeast corner is represented by the northeast corner of the bridge. Beginning at the northeast corner the boundary proceeds 26' southwest, 20' northwest, 36' northeast and 16' southeast to the point of beginning.

☐ See continuation sheet

Boundary Justification

The boundary includes only that area that is historically associated with the nominated property.

☐ See continuation sheet

11. Form Prepared By

name/title	Larry Jochims	date	September 20, 1989
organization	Kansas State Historical Society	telephone	(913) 296-3251
street & number	120 W. 10th	state	KS
city or town	Topeka	zip code	66612

United States Department of the Interior
National Park ServiceNational Register of Historic Places
Continuation Sheet

Section number _____ Page _____

SUPPLEMENTARY LISTING RECORD

NRIS Reference Number: 89002185Date Listed: 1/4/90Doniphan County Waddell
Property NameDoniphan
CountyKS
StateMetal Truss Bridges in Kansas 1861--1939 MPS
Multiple Name

This property is listed in the National Register of Historic Places in accordance with the attached nomination documentation subject to the following exceptions, exclusions, or amendments, notwithstanding the National Park Service certification included in the nomination documentation.

Beth Boland
Signature of the Keeper1/4/90
Date of Action

=====

Amended Items in Nomination:

Item #7, Description: Materials include 1) Metal: wrought iron or steel; and 2) Wood.

Item #8, Significance: The applicable area of significance is engineering only.

=====

DISTRIBUTION:
National Register property file
Nominating Authority (without nomination attachment)